



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,297	07/11/2003	Nobuyoshi Osamura	11-170	2917
23400	7590	09/21/2004	EXAMINER	
POSZ & BETHARDS, PLC 11250 ROGER BACON DRIVE SUITE 10 RESTON, VA 20190			NGUYEN, MINH T	
			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/617,297	OSAMURA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Minh Nguyen	2816	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 6,7,12 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-10,13,14 and 16-19 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/11/03</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Applicant's election without traverse of species I in the reply filed on 7/8/04 is acknowledged. The following is a detailed Office action of the elected species, i.e., claims 1-5, 8-11, 13-14 and 16-19. Claims 6-7, 12 and 15 which are drawn to the non-elected species can be asked to rejoin if the generic claim is found allowable.

#### ***Specification***

2. The disclosure is objected to because of the following informalities:

(i) page 8, line 5, Fig. 12 is a circuit configuration of a delay control circuit (see page 29, line 1), not a power supply circuit as described.

(ii) page 8, lines 7 and 9, same problems for Figs. 13 and 14 as discussed in (i).

(iii) page 21, line 12, "Fig. 3" should be changed to -- Fig. 8 --.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 2816

Claims 1-5, 8-10, 13-14 and 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,625,279, issued to Rice et al.

As per claim 1, Rice discloses a power supply circuit (Fig. 8), comprising:

a main transistor (Q1) placed in a power transmission path connecting an input terminal (VIN) and an output terminal (VOUT);

a voltage detecting circuit (voltage divider, R2 and R3) configured to detect a detected voltage (the voltage at the intersection of R2 and R3) in response to an output voltage (VOUT) supplied through the output terminal;

a reference-voltage producing circuit (the circuit which generates the reference voltage VREF to one input terminal of the comparator 27) configured to produce a reference voltage (VREF) in accordance with a target voltage (a predetermined voltage set by the user);

a voltage control circuit (comparator 27) configured to control the main transistor Q1 so that the detected voltage is consistent with the reference voltage (control by providing the control signal to the base of Q1 to turn ON/OFF transistor Q1);

a current detecting circuit (resistor 80) configured to detect an output current supplied through the output terminal (by sensing the voltage drop across resistor 80);

a limited-current-value setting circuit (the external controller 21, see Fig. 2 for the numerical number 21) configured to set a limited value of the output current so that the limited value increases gradually in cases where the output voltage is made to rise up to the target voltage (column 5, lines 20-40, i.e., "soft start", the duty cycle gradually increases, Fig. 3); and

Art Unit: 2816

a current limiting circuit (the oscillator OSC) configured to control the main transistor so that the output current keeps a value less than or equal to the limited value in cases where the output voltage is made to rise up to the target voltage (also see Fig. 3 for the explanation).

As per claim 2, because the output signal of the oscillator OSC is a digital signal, the recited limitation “stepwise increase” is met. The recited “elapse time” is the “start up” time, column 5, lines 20-40.

As per claim 3, the recited limitation is also described in column 5, lines 20-40.

As per claim 4, the recited limitation “timer circuit” is inherently met because Rice teaches the external controller 21 is a microprocessor system (column 3, line 55). Also, column 5, lines 20-40 further describes how the external controller 21 uses “the timer” to monitor the duty cycle of the waveforms generated by the oscillator OSC.

As per claim 5, the recited “current supply path” or “power transmission path” is from VIN through resistor 80, through Q1, L1 and VOUT. Main transistor Q1 is clearly in the current supply path.

As per claim 8, this claim is rejected for the same reason noted in claim 5.

As per claim 9, the recited limitations are discussed in claims 1-3. Column 5, lines 20-40 further describes the operation of the Rice’s circuit. The recited “delay control circuit” is inherently met and it is inside the controller 21, for example, it is used to set the time interval for the “soft-start” process which is 5 milliseconds in some embodiments (column 5, line 40).

As per claim 10, the recited limitation is met as Rice describes this is the time when the soft start is completed (column 5, line 40).

As per claim 13, the recited shutoff circuit reads on the comparator 88 (column 6, lines 51-67).

As per claim 14, this claim is rejected for the same reason noted in claim 5.

As per claims 16 and 18, these claims are rejected for the same reason noted in claim 13.

As per claims 17 and 19, these claims are rejected for the same reason noted in claim 5.

***Allowable Subject Matter***

4. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 11 is allowable because the prior art of record fails to disclose or suggest the inclusion of a charge circuit and a comparison circuit for performing the recited function in a delay control circuit.

5 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Nguyen whose telephone number is **571-272-1748**. The examiner can normally be reached on Monday, Tuesday, Thursday, Friday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2816

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 9/17/04

Minh Nguyen  
Primary Examiner  
Art Unit 2816